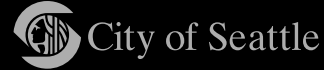


# The Alaskan Way Viaduct & Seawall Replacement Project

04.06



## For More Information:

### Visit the Web site at:

[www.wsdot.wa.gov/  
projects/viaduct](http://www.wsdot.wa.gov/projects/viaduct)

### Call the hotline:

206-269-4421

### Send an e-mail to:

[viaduct@wsdot.wa.gov](mailto:viaduct@wsdot.wa.gov)

### Send a letter to:

Alaskan Way Viaduct and  
Seawall Replacement Project  
c/o Washington State  
Department of Transportation  
999 Third Avenue, Suite 2424  
Seattle, WA 98104

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## Why Not Retrofit?

Some rumors persist that the Viaduct can simply be retrofitted, for prices as low as \$200 million, or even for a billion dollars. The idea is appealing, and WSDOT and the City of Seattle exhaustively studied this option for more than four years to see if a retrofit would work instead of replacing the entire structure. However, the analysis revealed the Viaduct was in such poor condition that a retrofit would still leave it vulnerable in another earthquake. We concluded it was better to rebuild than try to strengthen what was there, and the retrofit option was no longer considered viable.

### The basic reasons:

- **It doesn't protect us in an earthquake.** A retrofit won't hold up in a major earthquake like a new elevated structure or a tunnel. There's a 1 in 20 chance that another significant earthquake will strike our region within the next 10 years, so we must be prepared.
- **It's not cost-effective.** A complete retrofit of the Viaduct requires that the structure's foundations, piles, columns, beams, joints, deck and bridge rail be reconstructed, expanded, rebuilt, wrapped, or replaced. Our estimates show this would cost about 85-90 percent of what the new elevated structure would cost.



*Inspectors examine damage on the Viaduct*

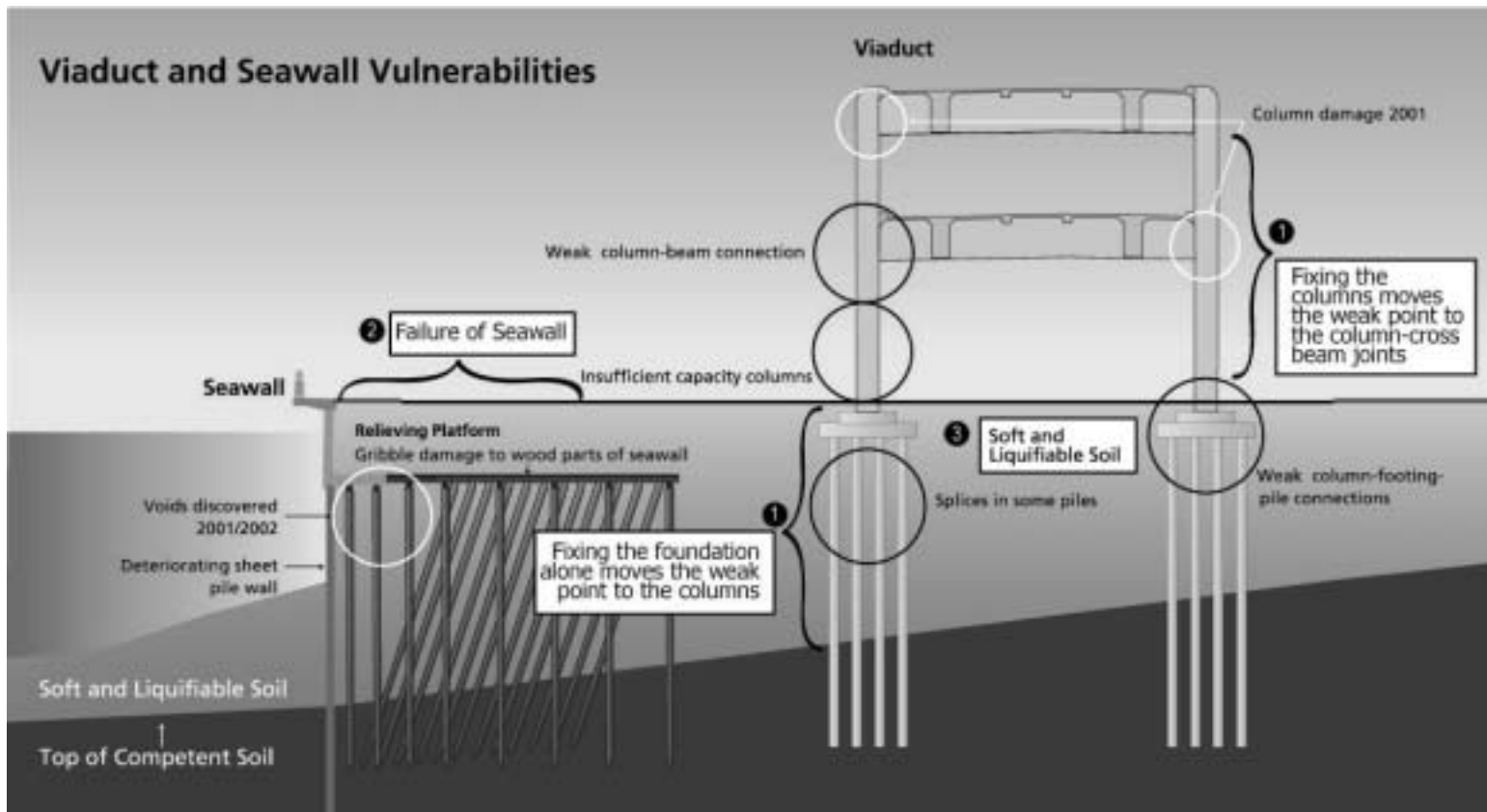
For something that merely patches the wear and tear and slows down the deterioration process, it's not a good investment or use of taxpayer money.

- **It's a 'band-aid' approach.**

A complete retrofit would only last 35-50 years, and doing a partial retrofit would still leave parts of the Viaduct vulnerable to major damage, or even collapse. For example, fixing the foundations alone can be done, but it just moves the weak point to the columns. Retrofitting the Viaduct is a short-term band-aid approach that won't serve us well in the long run.



*A cross beam on the Viaduct damaged by the Nisqually earthquake in 2001*



*Why not retrofit? Whether one or all of the weak points are fixed, the existing Viaduct still would be vulnerable in an earthquake*

## How would the Viaduct fail in an earthquake?

Some people speculate that there is one clear way that the Viaduct would fail in an earthquake and want to focus efforts on that one scenario to save money. The problem is that the Viaduct has at least three known ways it could fail, all of which could occur depending on the depth, location, and magnitude of the earthquake.

## These possible scenarios are:

- ❶ structural failure (at multiple locations)
- ❷ failure of the seawall
- ❸ liquefaction of the soil

Predicting precisely when an earthquake will happen is almost impossible, and predicting the exact nature of that earthquake is equally difficult. But, we do know that we're extremely vulnerable to earthquakes in this region. Any form of retrofit is not structurally safe and would be a waste of public resources, and as a result, we are no longer considering it as a viable option.

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